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ABSTRACTS

The purpose of this department is to give sufficient information about the subject matter of each publication to enable users to decide whether to read it. It is our intention to cover all books, articles, and other materials in the field.

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In order to facilitate reference and indexing, entries are given abstract numbers which appear at the end following the symbol #. A triple numbering system is used: the first number indicates the volume, the second the issue number, and the third the sequential number within that issue. For example, the abstracts for Volume 20, Number 1, are numbered: 20.1.1, 20.1.2, 20.1.3, etc.

For reviews and abstracts published in Volumes 1 through 13 there are an *author index* in Volume 13, Number 4, and a *subject index* in Volume 14, Number 1.

The initials in parentheses at the end of an entry indicate the abstractor. In this issue there are abstracts by Victor Albis (Bogotá, Colombia), Joe Albree (Montgomery, AL), Randy Elzinga (Hamilton, Canada), John G. Fauvel (Milton Keynes, England), Cal Jongsma (Sioux Center, IA), Herbert E. Kasube (Peoria, IL), Elena Marchisotto (Northridge, CA), Kevin VanderMeulen (Hamilton, Canada), Paul Wolfson (West Chester, PA), David Zitarelli (Philadelphia PA), and Glen Van Brummelen.

Aiton, E. J. *See* #27.3.86.

Albis-González, Victor Samuel; and Sánchez, Clara H. Description of the Course on Differential Calculus Taught by Aimé Bergeron at the Military College [in Spanish], *Revista Academia Colombiana de Ciencias Exactas, Físicas y Naturales* **23** (86) (1999), 73–79. Bergeron's course at the Colejio Militar in 1851 demonstrates the existence of calculus in Colombia during the 19th century. (GVB) #27.3.1

Alexandrov, A. D. *Selected Works. Part I. Selected Scientific Papers*, trans. P. S. V. Naidu; Yu. G. Reshetnyak and S. S. Kutateladze, eds., Amsterdam: Gordon & Breach, 1996, x+322 pp. This is the first translation into English of selections from Alexandrov's (b. 1912) early works. All but the last three articles deal with problems in geometry, mainly convex and differential geometry. See the review by Peter M. Gruber in *Mathematical Reviews* **2000a**:01035. (JA) #27.3.2

Amer, Mohamed. *See* #27.3.134.

Amunategui, Godofredo Iommi. *See* #27.3.68.

Angelelli, Ignacio. *See* #27.3.46.

Anjing, Qu. On Hypotenuse Diagrams in Ancient China, *Centaurus* **39** (1997), 193–210. Argues that the *Zhou Bi* (100 B.C.) contains a statement of a proof of the Pythagorean Theorem and that Zhao Shuang's 3rd-century A.D. commentary contains a reconstruction and reformulated proof. (GVB) #27.3.3

Araki, H. *See* #27.3.33.

Arcones, Miguel A. *See* #27.3.82.

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Ariew, Roger. *See* #27.3.57.

Auf der Heide, Friedhelm Meyer. *See* #27.3.159.

Barbour, Julian B. Going Round in Circles, in M. Frankaviglia, G. Longhi, L. Lusanna, and E. Sorace, eds., *Proceedings of the 14th International Conference on General Relativity and Gravitation*, River Edge, NJ: World Scientific, 1997, pp. 31–55. Engaging discussion of the role of circles and of absolute versus relative motion in the history of astronomy. See the review by Philip L. Quinn in *Mathematical Reviews* **99k**:01093. (CJ) #27.3.4

Barker, Peter; and Goldstein, Bernard R. Realism and Instrumentalism in Sixteenth Century Astronomy: A Reappraisal, *Perspectives on Science* **6** (3) (1998), 232–258. Questions the claim that 16th-century astronomy was instrumentalistic rather than realistic, and suggests that the 20th-century meanings of "realism" and "instrumentalism" may not apply to 16th-century astronomy. (GVB) #27.3.5

Batitsky, Vadim. From Inexactness to Certainty: The Change in Hume's Conception of Geometry, in T. S. Ferguson, L. S. Shapley, and J. B. MacQueen, eds., *Statistics, Probability and Game Theory*, Hayward, CA: Institute of Mathematical Statistics, 1996, pp. 347–367. Hume's early and late discussions of geometry are examined; his first account is explained as a failed attempt to discredit geometrical proofs of infinite divisibility of extension. (GVB) #27.3.6

Beckers, Jules. *See* #27.3.106.

Begehr, H. G. W.; Koch, H.; Kramer, J.; Schappacher, N.; and Thiele, E.-J., eds. *Mathematics In Berlin*, Berlin: Birkhäuser Verlag, 1998, xii+200 pp., $22. Description by numerous contributors of different facets of mathematics in Berlin from the time of Leibniz to 1998. See the review by Albert C. Lewis in *Mathematical Reviews* **99k**:01080. (CJ) #27.3.7

Ben Miled, Marouane. Le Commentaires d'al-M$\bar{a}$h$\bar{a}$n$\bar{i}$ et d'un Anonyme du Livre X des *Éléments* d'Euclide, *Arabic Sciences and Philosophy* **9** (1999), 4, 6, 89–156. These editions of the two earliest surviving commentaries on Book X of the *Elements* are partial algebraizations of Euclid's geometrical classifications of irrational magnitudes. (GVB) #27.3.8

Benz, Walter. Lorenz–Minkowski Geometry, De Sitter's World and Einstein's Cylinder Universe, in P. L. Butzer, H. Th. Jongen, and W. Oberschelp, eds., *Charlemagne and his Heritage*, vol. 2, Turnhout: Brepols, 1998, pp. 197–212. "The author considers the Minkowski world, the De Sitter world and Einstein's cylinder cosmos as four-dimensional spaces with most mobility." See the review by H. Treder in *Mathematical Reviews* **2000a**:01020. (JA) #27.3.9

Berger, Marcel; Bourguignon, Jean-Pierre; Choquet-Bruhat, Yvonne; Marle, Charles-Michel; and Revuz, André. André Lichnerowicz (1915–1998), *Notices of the American Mathematical Society* **46** (1999), 1387–1396. The authors reflect on some of the contributions of André Lichnerowicz, especially in modern differential geometry. (KVM) #27.3.10

Berggren, J. L. *See* #27.3.88.

Bergmann, Merrie. *See* #27.3.149.

Bernardo, Antonio. H. von Helmholtz and Metageometry [in Italian], *Rivista di Storia della Scienza* **4** (2) (1996), 55–97. Traces the origin and development of Helmholtz's ideas regarding the principles of geometry and the validity of non-Euclidean geometry. See the review by Pierre Crépel in *Mathematical Reviews* **2000b**:01011. (EAM) #27.3.11

Beschler, Edwin F.; Buchsbaum, David A.; Schwartz, Jacob T.; Stanley, Richard P.; Taylor, Brian D.; and Waterman, Michael. Gian-Carlo Rota (1932–1999), *Notices of the American Mathematical Society* **47** (2000), 203–216. A reflection on some of the significant contributions of Gian-Carlo Rota, noting his impact as a combinatorialist, as a consultant for the Los Alamos National Laboratory and as founding editor of several journals. (KVM) #27.3.12

Beyer, Robert T. *Sounds of our Times. Two Hundred Years of Acoustics*, Woodbury, NY: American Institute of Physics Press/New York: Springer Verlag, 1999, xvi+444 pp., $49.95. This is a "substantial" and mostly

chronological history of acoustics from 1800 to 1975. There are many historical diagrams, the emphasis is on the physics and technology, and the mathematics "is little examined." See the review by Ivor Grattan-Guinness in *Mathematical Reviews* **2000a**:76004. (JA) #27.3.13

Blay, Michel. Les Règles Cartésiennes de la Science du Mouvement Dans *Le Monde ou Traité de la Lumière, Revue d'Histoire des Sciences* **51** (2–3), 319–346. Traces Descartes's formulation of his rules of motion. See the review by Peter M. Harman in *Mathematical Reviews* **99k**:01011. (CJ) #27.3.14

Bluman, George; Cook, Pamela; Flaherty, Joe; Kevorkian, Jerry; Malmuth, Norman; O'Malley, Robert; Schwendeman, Donald W.; and Tulin, Marshall. Julian D. Cole (1925–1999), *Notices of the American Mathematical Society* **47** (2000), 466–473. The authors review the contributions of the applied mathematician Julian Cole, and mention especially his work in nonlinear equations of fluid dynamics for transonic and hypersonic flow. (KVM) #27.3.15

Bölling, Reinhard. Kowalewskaja, Herr H-a, Herr X und Andere Gedanken zu Einem Unbekannten Foto, *Mitteilungen der Deutschen Mathematiker-Vereinigung* 1999 (1), 21–25. Contains some interesting musings about Mittag-Leffler, Kovalevskaya, and Runge. See the review by R. L. Cooke in *Mathematical Reviews* **99k**:01047. (CJ) #27.3.16

Bonilla Rius, Elisa. Cambridge University, Newton's University [in Spanish], *Miscelánea Matématica* **20** (1994), 15–27. Brief account of Newton's life at Cambridge, both as a student and as a professor. See the review by Luigi Pepe in *Mathematical Reviews* **99k**:01081. (CJ) #27.3.17

Boolos, George. *Logic, Logic, and Logic*, Richard Jeffrey, ed. Cambridge, MA: Harvard Univ. Press, 1998, x+443 pp., $45. A collection of papers by George Boolos, including studies on set theory, the nature of logic, and the work of Frege in the philosophy of mathematics. With introductions and an afterword by John P. Burgess. See the review by Jill M. Dieterle in *Mathematical Reviews* **2000b**:03005. (EAM) #27.3.18

Boos, William. The Transzendenz of Mathematical 'Experience,' *Synthese* **114** (1) (1998), 49–98. Formally presents some of Gödel's contributions with those of other logicians and compares them with arguments of Aristotle, Leibniz, Berkeley, Hume, Kant, and others. See the review by Jean-Pierre Ginisti in *Mathematical Reviews* **2000b**:03013. (EAM) #27.3.19

Borel, A.; Hennkin, G. M.; and Lax, Peter D. Jean Leray (1906–1998), *Notices of the American Mathematical Society* **47** (2000), 350–359. The article highlights some of the significant results developed by Jean Leray in the areas of topology, partial differential equations, and functions of several complex variables. Topological contributions discussed are those in the area of fixed point problems, sheaves, and homology and cohomology. In the area of partial differential equations, his developments in the areas of stationary problems and fixed point problems are discussed. Under the topic of functions of several complex variables, his work on the holomorphic Cauchy problem and the theory of residues on complex manifolds is discussed. (RE) #27.3.20

Borgato, M. T.; and Pepe, Luigi. Leopardi and the Mathematical Sciences [in Italian], *Bolletino della Unione Matematica Italiana. Sezione A. La Matematica nella Società e nella Cultura (8)* **1** (1) (1998), 31–57. Giacomo Leopardi was one of the greatest figures in Italian literature. This paper surveys the references to mathematics which can be found in his literary works. See the review by Umberto Bottazzini in *Mathematical Reviews* **2000c**:01023. (HEK) #27.3.21

Bosma, Wieb. *See* #27.3.172.

Bottazzini, Umberto; Conte, Alberto; and Gario, Paola. The Report of Castelnuovo and Enriques: Unpublished Material for the Royal Prize in Mathematics of 1901 [in Italian], in Umberto Bottazzini, ed., *Studies in the History of Modern Mathematics, III*, Palermo: Circolo Matematico di Palermo, 1998, pp. 75–156. For their collaborative work on algebraic surfaces, Castelnuovo and Enriques applied to the Accedemia dei Lincei for the third Royal Prize (1901) for mathematics. After a delay in which apparently the veracity of their collaboration was questioned, they were denied the Prize. However, each earned it later. See the review by Luigi Pepe in *Mathematical Reviews* **2000a**:01021. (JA) #27.3.22

Bottazzini, Umberto. *See also* #27.3.21, #27.3.63, and #27.3.119.

Bourguignon, Jean-Pierre. *See* #27.3.10.

Brackenridge, J. B. The Role of Curvature in Newton's Dynamics, *International Journal of Engineering Science* **36** (12–14), 1361–1375. Clearly written paper, treating the role of curvature in Newton's geometric measure of central force. See the review by Niccolo Guicciardini in *Mathematical Reviews* **99k**:01012. (CJ) #27.3.23

Branner, Bodil. Caspar Wessel on Representing Complex Numbers (1799), *European Mathematical Society Newsletter* **33** (1999), 13–16. The Norwegian surveyor Caspar Wessel (1745–1818) was the first to give a geometrical interpretation of complex numbers and their rules of composition. (JGF) #27.3.24

Bréard, Andrea. *See* #27.3.137.

Bressoud, David M. *Proofs and Confirmations: The Story of the Alternating Sign Matrix Conjecture*, Washington, DC: Mathematical Association of America/Cambridge, UK: Cambridge, Univ. Press, 1999, paperbound, 246 pp., $29.95 ($24.95 for MAA members). An account, mostly of the technical details in algebraic combinatorics, of the background of this conjecture and its proof by Zeilberger in 1995. (PW) #27.3.25

Brigaglia, Aldo. Francesco Maurolico's Reconstruction of Books V and VI of the *Conics* [in Italian], *Bollettino di Storia delle Scienze Matematiche* **17** (2) (1997), 267–307. This reconstruction is especially concerned with the influence of these two books in the 17th century. See the review by Bernard Rouxel in *Mathematical Reviews* **2000a**:01010. (JA) #27.3.26

Brigaglia, Aldo; and Ciliberto, Ciro. Algebraic Geometry [in Italian], in Simonetta di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics after Unity* [in Italian], Milan: Marcos y Marcos, 1998, pp. 185–320. This paper contains a critical history of the Italian school of algebraic geometry between the two world wars The authors present not only the contributions of the Italian geometers, but also those of the German and French schools. See the review by Doru Ştefănescu in *Mathematical Reviews* **2000c**:01027. (HEK) #27.3.27

Brown, Kenneth, A. *See* #27.3.139.

Buchsbaum, David A. *See* #27.3.12.

Buekenhout, Francis. The Rise of Incidence Geometry and Buildings in the 20th Century, in P. L. Butzer, H. Th. Jongen, and W. Oberschelp, eds., *Charlemagne and his Heritage*, vol. 2, Turnhout: Brepols, 1998, pp. 235–256. "This is an historical account of the work of J. Tits, especially in the period 1955–1961, on the creation of buildings (originally called generalized polyhedra)." See the review by R. J. Bumcrot in *Mathematical Reviews* **2000a**:01022. (JA) #27.3.28

Bulirsch, Roland. Constantin Carathéodory Bauingenieur und Mathematiker. Griechenland in München, *Mitteilungen der Deutschen Mathematiker-Vereinigung* 1999 (1), 4–9. A fascinating, well-written description of Caratheodory's life, work, and career. See the review by R. L. Cooke in *Mathematical Reviews* **99k**:01051. (CJ) #27.3.29

Bumcrot, R. J. *See* #27.3.28.

Burgess, John P. *See* #27.3.18.

Busard, H. L. L. Über eine Vorlage des Traktets *Algorismus de Minutiis* von Johannes de Linerlis [On a Model of the Treatise *Algorismus de Minutiis* by Johannes de Linerlis], *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* **82** (1) (1998), 74–91. The first part of this article surveys algorithm treatises treating fractions from the 12th century until Johannes de Lineriis' influential *Algorismus de Minutiis*. The second part describes a 13th century algorithm for fractions; while the third part is the first edition of this algorithm. See the review by Jens Høyrup in *Mathematical Reviews* **2000c**:01013. (HEK) #27.3.30

Busard, H. L. L. Zwei Mittelalterliche Texte zur Theoretischen Mathematik: Die *Arithmetica Speculativea* von Thomas Bradwardine und die *Theorica Numerorum* von Wigandus Durnheimer [Two Medieval Texts on Theoretical Mathematics: The *Arithmetica Speculativea* by Thomas Bradwardine and the *Theorica Numerorum* by Wigandus Durnheimer], *Archive for History of Exact Sciences* **53** (1998), 97–124. There are at least four candidates to be the treatise on (theoretical) arithmetic that, in his *Geometria Speculativa*, Thomas Bradwardine said that he had written. The second part of the article gives a description of a "theory of numbers" by the

14th-century Franciscan, Wigandus Durnheimer. See the review by George Molland in *Mathematical Reviews* **2000c**:01012. (HEK) #27.3.31

Calvo, Emilia. Astronomical Theories Related to the Sun in Ibn al-H$\bar{a}$'im's *al-Z$\bar{i}$j al-K$\bar{a}$mil f$\bar{\imath}$'l-Ta$^{c}\bar{a}$l$\bar{\imath}$m*, *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* **12** (1998), 51–111.The author attempts to reconstruct the Arabic solar theories of the Andalusian astronomer Azarquiel which had some influence on late medieval and early Renaissance astronomy. See the review by George Saliba in *Mathematical Reviews* **2000c**:01007. (HEK) #27.3.32

Cartier, Pierre. La Folle Journée, de Grothendieck à Connes et Kontsevich: Évolution des Notions d'Espace et de Symétrie, in *Les Relations entre les Mathématiques et la Physique Théorique*, Bures-sur-Yvette: Institut des Hautes Études Scientifiques, 1998, pp. 23–42. This paper presents some interesting things about the life and work of Grothendieck and the unexpected connections between some of his work and that of Connes and Kontsevich. See the extensive review by H. Araki in *Mathematical Reviews* **2000c**:01028. (HEK) #27.3.33

Cauty, André. L'Ethnoéducation en Colombie [Ethnoeducation in Columbia], in Martine Barrère, ed., *Sciences et Développement*, Paris: L'Institut Français de Recherche Scientifique pour le Développement en Coopération, 1996, pp. 201–227. This paper reports on almost 20 years of work in indigenous communities in Colombia. The role of language in mathematical education is discussed as well as political issues. In particular the author discusses a method to introduce the concept of real numbers. See the extensive review by Ubiratan D'Ambrosio in *Mathematical Reviews* **2000c**:01003. (HEK) #27.3.34

Chambers, Lloyd G. *See* #27.3.93 and #27.3.117.

Chandra Hari, K. A Critical Study of *Vedic Mathematics* of Śankarac$\bar{a}$rya Śr$\bar{\imath}$ Bh$\bar{a}$ratī Kṛṣṇa T$\bar{\imath}$rthaj$\bar{\imath}$ Mah$\bar{a}$r$\bar{a}$j, *Indian Journal of History of Science* **34** (1) (1999), 1–17. The 1965 book *Vedic Mathematics* has been a source of controversy for decades. This paper attempts to decipher the original author's method of discovery of the s$\bar{u}$tras. (GVB) #27.3.35

Chandra Hari, K. Intricacy of the Siddh$\bar{a}$ntic Solar Year, *Indian Journal of History of Science* **34** (2) (1999), 133–143. An analysis of the surprisingly long length of the solar year in Siddh$\bar{a}$ntic astronomy. (GVB) #27.3.36

Châtelet, Gilles. *Figuring Space: Philosophy, Mathematics, and Physics*, trans. Robert Shore and Muriel Zagha, Dordrecht: Kluwer, 2000, xxiii+197 pp. An extended essay on relations between abstract space with its mathematical constructs and the intuitive space of geometry and physics. The author introduces several historical examples of strategems for formalizing intuitions from Oresme, Leibnitz, Faraday, Hamilton, and others. (PW) #27.3.37

Choquet-Bruhat, Yvonne. *See* #27.3.10.

Ciesielski, Krzysztof. *See* #27.3.90.

Cilberto, Ciro. M. de Franchis and the Theory of Hyperelliptic Surfaces, in Umberto Bottazzini, ed., *Studies in the History of Modern Mathematics, III*, Palermo: Circolo Matematico di Palermo, 1998, pp. 45–73. The author discusses de Franchis's contributions to the theory of hyperelliptic surfaces. The appendix contains 13 original letters of de Franchis to Giccia. See the review by I. Dolachev in *Mathematical Reviews* **2000c**:14002 (HEK) #27.3.38

Ciliberto, Ciro. *See also* #27.3.27.

Conte, Alberto. *See* #27.3.22.

Cook, Pamela. *See* #27.3.15.

Cooke, Roger L. *See* #27.3.16, #27.3.29, and #27.3.56.

Crépel, Pierre. *See* #27.3.11, #27.3.132, and #27.3.133.

Cushing, J. M. *See* #27.3.103.

D'Ambrosio, Ubiratán. La Transferencia del Conocimiento Matemático a las Colonias: Factores Sociales, Políticos y Culturales [The Transfer of Mathematical Knowledge to the Colonies: Social, Political and Cultural Factors], *LLULL* **22** (1999), 347–380. From the author's abstract: the paper "focuses on the social, political, and cultural factors in the dynamics of the transfer of mathematical knowledge to the colonies and the production of mathematics in Latin America." (VA) #27.3.39

D'Ambrosio, Ubiratan. *See also* #27.3.34.

Dale, A. I. *See* #27.3.59.

Dauben, Joseph W. Ancient Chinese Mathematics: The *Jiu Zhang Suan Shu* vs. Euclid's *Elements*. Aspects of Proof and the Linguistic Limits of Knowledge, *International Journal of Engineering Science* **36** (1998), 1339–1359. The fact that ancient Chinese mathematics was primarily algorithmic, especially in contrast to the abstract and axiomatic nature of ancient Greek mathematics, is "linked to logical and linguistic factors in the Chinese language." Especially noteworthy is the comparative histories of *Jiu Zhang Suan Shu* (the *Nine Chapters on the Art of Mathematics*) and Euclid's *Elements*. See the review by Wann-Sheng Horng in *Mathematical Reviews* **2000a**:01005. (JA) #27.3.40

Dawson, John W. *See* #27.3.109.

Deakin, Michael A. B. *See* #27.3.64 and #27.3.125.

DeFacio, Brian. *See* #27.3.87.

Deligne, Pierre. Quelques Idées Maîtresses de l'Oeuvre de A. Grothendieck, in *Matériaux Pour l'Histoire des Mathématiques au XX^{e} Siècle*, Paris: Société Mathématique de France, 1998, pp. 11–19. Discusses some key methodological ideas in A. Grothendieck's work. See the review by S. L. Kleiman in *Mathematical Reviews* **99k**:01034. (CJ) #27.3.41

Demidov, S. S. *See* #27.3.120.

DeMoor, Ed. From "Vormleer" to Realistic Geometry, *BSHM Newsletter* **40** (1999), 59–60. A summary of the author's 679-page 1999 Ph.D. dissertation [University of Utrecht; in Dutch] entitled *From "Vormleer" to Realistic Geometry: A Historical–Didactic Research into Geometry Teaching to Children of 4 to 14 Years of Age During the 19th and 20th Centuries in the Netherlands*. (DEZ) #27.3.42

Di Sieno, Simonetta. History and Didactics [in Italian], in Simonetta Di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics After Unity*, Milan: Marcos y Marcos, 1998, 765–816. Discusses the development of the history of mathematics as an academic discipline in Italy between the two World Wars. See the review by Eduard Glas in *Mathematical Reviews* **2000b**:01017. (EAM) #27.3.43

Dieks, Dennis. *See* #27.3.85 and #27.3.170.

Dieterle, Jill M. *See* #27.3.18.

Dlab, Vlastimil; Duff, George; and Fournier, John, eds. *Canadian Mathematical Society. 1945–1995*, vol. 2, Ottawa: Canadian Mathematical Society, 1996, vi+633 pp. The second of three volumes containing noteworthy articles published in the two major research journals of the Canadian Mathematical Society since 1945. (GVB) #27.3.44

Dolachev, I. *See* #27.3.38 and #27.3.140.

Dorofeeva, A. V.; and Tikhomirov, V. M. The History of Extremal Problems and the Prehistory of Functional Analysis [in Russian], in B. M. Gnedenko, ed., *Outlines of the History of Mathematics* [in Russian], Moscow: Izdatelstvo Moskovskogo Universiteta, 1997, pp. 423–494. This work traces extremal problems starting with the brachistochrone problem, Euler's direct method and Lagrange's calculus of variations through Weierstrass' work on weak and strong extrema and the introduction of Lagrange multipliers. The final chapter is a sketch of the development of functional analysis. See the review by F. Smithies in *Mathematical Reviews* **2000c**:01001. (HEK) #27.3.45

Downey, Rodney. *See* #27.3.160.

Drozdek, Adam. Logic and Ontology in the Thought of Bolzano, *Logic and Logical Philosophy* **5** (1997), 3–18. Focuses on ontological and epistemological issues in the work of Bolzano. See the review by Ignacio Angelelli in *Mathematical Reviews* **2000b**:03004. (EAM) #27.3.46

Dubov, P. L. *See* #27.3.143.

Duchesneau, François. Leibniz' Theoretical Shift in the *Phoranomus* and *Dynamica de Potentia*, *Perspectives on Science* **6** (1–2) (1998), 77–109. This paper clarifies the development of Leibniz's science of dynamics. See the review by Peter M. Harman in *Mathematical Reviews* **2000c**:01018. (HEK) #27.3.47

Duff, George. *See* #27.3.44.

Dumas, H. Scott. *See* #27.3.78.

Duncan, A. M. *See* #27.3.86.

Earman, John; and Eisenstaedt, Jean. Einstein and Singularities, *Studies in History and Philosophy of Science. B. Studies in History and Philosophy of Modern Physics* **30** (2) (1999), 185–235. This paper surveys Einstein's attitudes towards and dealings with singularities in general relativistic spacetimes from the early years of the theory onward. See the review by Lawrence Sklar in *Mathematical Reviews* **2000c**:83002. (HEK) #27.3.48

Eckmann, Beno. Birth of Fibre Spaces and Homotopy, *Expositiones Mathematicae* **17** (1) (1999), 23–33. The text of a lecture on the early history of fibre spaces beginning with Hopf's discovery of eponymous fibrations in 1935 and ending with Serre's thesis in 1950. See the review by Mark Hovey in *Mathematical Reviews* **2000b**:55002. (EAM) #27.3.49

Eisenstaedt, Jean. *See* #27.3.48.

Erlichson, Herman. Understanding Galileo, *Physis* **34** (3) (1997), 605–614. Discusses Galileo's use of mechanical notions in connection with Proposition 6 of his treatise *On Local Motion*. See the review by George Molland in *Mathematical Reviews* **99k**:01013. (CJ) #27.3.50

Fauvel, John G. A Most Horrible Infamy, *BSHM Newsletter* **39** (1999), 1–7. Impassioned editorial decrying the secret sale of the Turner Collection of rare mathematics texts by the University of Keele, with a bibliography of related items. Letters responding to the editorial appear in *BSHM Newsletter* **40** (1999), pp. 16–21. (DEZ) #27.3.51

Feferman, Solomon. *In the Light of Logic*, New York/Oxford: Oxford Univ. Press, 1998, xii+340 pp. This is a collection of essays written over a period of 20 years. Feferman criticizes building the foundations of mathematics upon Cantorian set theory. His essays discuss the historical developments of these ideas. (PW) #27.3.52

Fermat, Pierre. *Œuvres des Pierre Fermat. I. La Théorie des Nombres*, trans. Paul Tannery, Paris: Librairie Scientifique et Technique Albert Blanchard, 1999, xii+503 pp., 340 F. This reprint of the first volume of the Tannery–Henry edition of Fermat's works contains an introduction and commentary by Roshdi Rashed, Ch. Houzel, and G. Christol. See the extensive review by Christoph J. Scriba in *Mathematical Reviews* **2000c**:01040. (GVB) #27.3.53

Field, J. V. *See* #27.3.86.

Flaherty, Joe. *See* #27.3.15.

Flenner, Hubert. Emmy Noether and the Development of Commutative Algebra, in Mina Teicher, ed., *The Heritage of Emmy Noether*, Ramat Gan: Bar-Ilan University, 1999, pp. 23–38. Starting with Gauss, this paper follows the mostly 19th-century development of commutative algebra leading up to and "discussing the contributions of Noether and her 'boys' at Göttingen in the 1920s." See the review by Victor J. Katz in *Mathematical Reviews* **2000a**:01023. (JA) #27.3.54

Fletcher, C. R. *See* #27.3.141.

Fournier, John. *See* #27.3.44.

Francis, Richard. *See* #27.3.114.

Fraser, Craig G. *See* #27.3.74.

Friedlander, S.; and Yudovich, V. Instabilities in Fluid Motion, *Notices of the American Mathematical Society* **46** (1999), 1358–1367. The article begins with a brief historical account of research on instabilities of fluid flows, focusing on a 1883 experiment by O. Reynolds. (KVM) #27.3.55

Fritzsche, Bernd. Sophus Lie: A Sketch of his Life and Work, *Journal of Lie Theory* **9** (1) (1999), 1–38. Provides a short biography of Lie's life and work, with photographs and a biography of 67 titles. See the review by R. L. Cooke in *Mathematical Reviews* **2000b**:01026. (EAM) #27.3.56

Galuzzi, Massimo. *See* #27.3.102.

Garber, Daniel; and Ariew, Roger, eds. *Leibniz and the Sciences*, *Perspectives on Science* **6** (1–2) (1998), i–iv, 1–208. A collection of six papers dealing with various aspects of the interaction of Leibniz's work with the sciences. Many of the papers will be abstracted separately. (GVB) #27.3.57

Gardies, Jean-Louis. *L'Organisation des Mathématiques Grecques de Théétète à Archimède*, Paris: Librairie Philosophique J. Vrin, 1997, 311 pp., 198 F. Philosophical study of the history of Greek geometry; fails to acknowledge or engage literature written on the topic in the last half century, except for that in French. See the review by Victor V. Pambuccian in *Mathematical Reviews* **99k**:01003. (CJ) #27.3.58

Gario, Paola. *See* #27.3.22.

Garrett, Anthony J. M. The History of Probability Theory, in Gary J. Erickson, Joshua T. Rychert, and C. Ray Smith, eds., *Maximum Entropy and Bayesian Methods*, Dordrecht: Kluwer, 1998, pp. 223–238. The "roots" of the history of probability theory from the Bayesian point of view are traced from legal procedures in ancient Roman and Hebrew times to the 20th century. See the review by A. I. Dale on *Mathematical Reviews* **2000a**:60002. (JA) #27.3.59

Gentil Baldrich, José Maria. Nuevos Datos Sobre la Vida y Obra de José Mariano Vallejo y Ortega [New Data on José Mariano Vallejo's Life and Work], *LLULL* **22** (1999), 381–404. This paper adds political, scientific, and editorial information about the 19th-century Spanish mathematician José Mariano Vallejo, allowing the author to pinpoint some interesting features of Vallejo's personality. (VA) #27.3.60

Gerlach, E. *See* #27.3.153.

Ginisti, Jean-Pierre. *See* #27.3.19.

Glas, Eduard. *See* #27.3.43.

Goenner, Hubert; Renn, Jürgen; Ritter, Jim; and Sauer, Tilman, eds. *Expanding Worlds of General Relativity*, Boston: Birkhäuser, 1999, xvi+512 pp., $69.95. These papers from the 4th International Conference on General Relativity held in Berlin in 1995 present historical and conceptual studies of general relativity. See the review by Peter R. Law in *Mathematical Reviews* **2000c**:83001 (HEK) #27.3.61

Goldstein, Bernard R. *See* #27.3.5.

Gondard-Cozette, Danielle. *See* #27.3.168.

Gottleib, Christian. The Simple and Straightforward Construction of the Regular 257-gon, *Mathematical Intelligencer* **21** (1) (1999), 31–37. After a brief history of the construction of regular n-gons the author presents a detailed construction of a regular 257-gon. See the review by James J. Tattersall in *Mathematical Reviews* **2000c**:12006. (HEK) #27.3.62

Gower, B. S. Henri Poincaré and Bruno de Finetti: Conventions and Scientific Reasoning, *Studies in History and Philosophy of Science. B. Studies in History and Philosophy of Modern Physics* **28** (4) (1997), 657–679. Discusses Poincare's account of probabilistic reasoning and the role played by conventions; compares this to de Finetti's subjectivism. See the review by Umberto Bottazzini in *Mathematical Reviews* **99k**:01035. (CJ) #27.3.63

Grant, Hardy. Mathematics and the Liberal Arts, *College Mathematics Journal* **30** (2) (1999), 96–105. Discusses the place of mathematics among the "liberal arts" in medieval universities, from the time of Plato to the early 12th century. See the review by Michael A. B. Deakin in *Mathematical Reviews* **2000b**:01035. (EAM) #27.3.64

Grattan-Guinness, Ivor. The Development of a Historian, *BSHM Newsletter* **40** (1999), 29–35. The author recalls the decisive influences, some negative, that led to his becoming a historian of mathematics rather than a mathematician or an economist. (DEZ) #27.3.65

Grattan-Guinness, Ivor. *See also* #27.3.13, #27.3.107, and #27.3.171.

Gray, S. I. B. Heiberg and the Lost Palimpsest of Archimedes, *BSHM Newsletter* **39** (1999), 26–31. Short biographical account of the Danish philologist Johan Ludvig Heiberg (1854–1928) and his role in the publication of the Archimedes palimpsest containing the *Method*. (DEZ) #27.3.66

Grinshpan, Arcadii Z. The Bieberbach Conjecture and Milin's Functionals, *American Mathematical Monthly* **106** (1999), 203–214. Gives a survey of the results that led to the proof of the Bieberbach conjecture and concludes with a simplification and improvement of de Branges' proof. See the review by James A. Hummel in *Mathematical Reviews* **2000b**:30027. (EAM) #27.3.67

Gropp, Harald. On Configurations and the Book of Sainte-Laguë, *Discrete Mathematics* **191** (1–3) (1998), 91–99. Details the life and work of Andre Sainte-Laguë (1882–1950) at the beginnings of graph theory. See the review by Godofredo Iommi Amunategui in *Mathematical Reviews* **2000b**:05004. (EAM) #27.3.68

Gropp, Harald. *Propositio de Lupo et Capra et Fasciculo Cauli*—On the History of River-Crossing Problems, in P. L. Butzer, H. Th. Jongen, and W. Oberschelp, eds., *Charlemagne and His Heritage*, Turnhout: Brepols, 1998, vol. 2, pp. 31–41. The author believes that the classic problem of the wolf, goat and the cabbage was dealt with independently in several cultures of the world. See the review by Eberhard Knobloch in *Mathematical Reviews* **2000c**:01014. (HEK) #27.3.69

Gruber, Peter M. *See* #27.3.2.

Guerraggio, Angelo. Analysis [in Italian], in Simonetta di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics after Unity* [in Italian], Milan: Marcos y Marcos, 1998, pp. 1–158. This paper presents a detailed survey of the development of analysis in Italy between 1920 and 1940. In addition, the importance of Maurp Picone and his school is pointed out. See the review by Norbert Ortner in *Mathematical Reviews* **2000c**:01029. (HEK) #27.3.70

Guicciardini, Niccolo. *See* #27.3.23 and #27.3.111.

Gullberg, Jan. *Mathematics: From the Birth of Numbers*. New York: W. W. Norton, 1997, xxiv+1093 pp. A text that interweaves the content and history of mathematics, beginning with numbers and their symbols and covering a variety of modern topics. (GVB) #27.3.71

Gupta, R. C. *See* #27.3.154.

Hájek, Jaroslav. *Collected Works of Jaroslav Hájek—With Commentary*, Chichester: Wiley, 1998, x+677 pp., $185. Part I contains essays on Hajek's life, work and impact on statistics; part II contains 36 of his papers. See the review by Eugenio Regazzini in *Mathematical Reviews* **99k**:01086. (CJ) #27.3.72

Harman, Peter M. *See* #27.3.14, #27.3.47, #27.3.130, and #27.3.131.

Hartshorne, Robin. Teaching Geometry According to Euclid, *Notices of the American Mathematical Society* **47** (2000), 460–465. Hartshorne reflects on how Euclid's *Elements* pertain to the history of number versus magnitude in Greek geometry, the development of the real numbers, and the rise of analytic geometry. (KVM) #27.3.73

Hayashi, Tomohiro. Introducing Movement into Geometry: Roberval's Influence on Leibniz's Analysis Situs, *Historia Scientiarum* **8** (1998), 53–69. This is "a serious study of the character and origins of" Leibniz's attempts during the 1670s at revising Euclidean geometry. In the basic roles played by congruency and motion, the "key influence on Leibniz" was Roberval's *Géométrie*. See the review by Craig G. Fraser in *Mathematical Reviews* **2000a**:01012. (JA) #27.3.74

Hennkin, G. M. *See* #27.3.20.

Hildebrand, A. J. *See* #27.3.163.

Hintikka, Jaakko. On Gödel's Philosophical Assumptions, *Synthese* **114** (1) (1998), 13–23. The author's aim is to locate some of the assumptions on which Gödel's philosophy of mathematics rests. See the review by Hourya Sinaceur in *Mathematical Reviews* **2000c**:01030. (HEK) #27.3.75

Hirzebruch, Friedrich. Emmy Noether and Topology, in Mina Teicher, ed., *The Heritage of Emmy Noether*, Ramat Gan: Bar Ilan University, 1999, pp. 57–65. The author presents the historical origin of the formal use of homology groups as an efficient reformulation of the Betti numbers and the torsion numbers as numerical invariants. See the review by Himadri Kumar Mukerjee in *Mathematical Reviews* **2000c**:01032. (HEK) #27.3.76

Horng, Wann-Sheng. *See* #27.3.40.

Hovey, Mark. *See* #27.3.49.

Høyrup, Jens. *See* #27.3.30 and #27.3.95.

Hummel, James A. *See* #27.3.67.

Hunter, Patti Wilger. An Unofficial Community: American Mathematical Statisticians Before 1935, *Annals of Science* **56** (1999), 47–68. Examines various aspects of the American mathematical statistical community before the founding of the Institute of Mathematical Statistics in 1935. (GVB) #27.3.77

Iglesias, Patrick. Les Origines du Calcul Symplectique chez Lagrange, *L'Enseignement Mathématique* **44** (3–4) (1998), 257–277. This article traces the origins and early development of Lagrange's work in what we now call symplectic dynamics and symplectic geometry. See the review by H. Scott Dumas in *Mathematical Reviews* **2000c**:01024. (HEK) #27.3.78

Ingraham, R. L. *See* #27.3.121.

Irimia, C. *See* #27.3.79.

Israel, Giorgio. "To Administer is to Calculate": Two "Social Mathematicians" at the Wane of the Enlightenment [in Italian], *Bolletino di Storia delle Scienze Matematiche* **16** (2) (1996), 241–314. Treats the ideas of Nicolas-Francois Canard and E.-E. Duvillard de Durand regarding a mathematical approach to society. See the review by C. Irimia in *Mathematical Reviews* **99k**:01021. (CJ) #27.3.79

Ivanšić, Ivan. A Remarkable Osijeker and his Graph, *Mathematical Communications* **3** (2) (1998), 227–230. Presents the results of Danilo Blanuša's 1946 paper on the four-color problem, which left a lasting mark on graph theory. (GVB) #27.3.80

Janssen, Michel; and Schulmann, Robert. On the Dating of a Recently Published Einstein Manuscript: Could These Be the Calculations that Gave Einstein "Heart Palpitations"? With a Reply by Jagdish Mehra, *Foundations of Physics Letters* **11** (1998), 379–393. Controversy over undated notes written by Einstein; the reviewer asserts that "These notes must have been written later than November 1915." See the review by H. Treder in *Mathematical Reviews* **2000a**:01025, and see also #27.3.104. (JA) #27.3.81

Jeffrey, Richard. *See* #27.3.18.

Jeffreys, Harold. *Theory of Probability*, New York: Clarendon, 1998, xii+459 pp., $29.95. Reprint of the third edition of a treatise originally published in 1939, dedicated to the philosophy, foundations, methodology, and applications of Bayesian statistics. See the review by Miguel A. Arcones in *Mathematical Reviews* **2000b**:62001. (EAM) #27.3.82

Jones, Alexander. Studies in the Astronomy of the Roman Period. III. Planetary Epoch Tables, *Centaurus* **40** (1998), 1–41. This analysis of 11 planetary epoch tables uncovers the "probable or certain" use of Babylonian predictive schemes. (GVB) #27.3.83

Kaczorowski, Jerzy. Hilbert's Eighth Problem [in Polish], in Witold Wieslaw, ed., *Hilbert's Problems*, Warsaw: Polska Akademia Nauk, 1997, pp. 85–118. The centrality of the Riemann Hypothesis, and especially facts associated with several zeta functions, to certain famous problems in number theory is discussed. See the review by Andrzej Madrecki in *Mathematical Reviews* **2000a**:11003. (JA) #27.3.84

Katsumori, Makoto. Bohr's Early Complementarity Argument, *Historia Scientarium* (2) **8** (1) (1998), 1–19. Focuses on how Bohr used the notion of complementarity in fields outside of physics. See the review by Dennis Dieks in *Mathematical Reviews* **99k**:01036. (CJ) #27.3.85

Katz, Victor J. *See* #27.3.54.

Kepler, Johannes. *The Harmony of the World*, trans. E. J. Aiton, A. M. Duncan, and J. V. Field, Philadelphia: American Philosophical Society, 1997, xlii+549 pp., $60. Kepler's *Harmonice Mundi*, published in 1619, provides an analysis of the planetary geometry in terms of musical intervals. See the review by Raymond Mercier in *Mathematical Reviews* **2000c**:01020. (HEK) #27.3.86

Kevorkian, Jerry. *See* #27.3.15.

Khalatnikov, Isaak M.; and Mineev, Vladimir P., eds. *30 Years of the Landau Institute*, River Edge, NJ: World Scientific, 1996, xx+774 pp., $104. Reprints of major publications of members of the Landau Institute for Theoretical Physics in Moscow in the areas of condensed matter, mathematical physics, field theory, and astrophysics. See the review by Brian DeFacio in *Mathematical Reviews* **2000b**:01034. (EAM) #27.3.87

Kheirandish, Elaheh. *The Arabic Version of Euclid's Optics*, 2 vols., New York: Springer-Verlag, 1999, vol. 1: lxvi+246 pp., vol. 2: xlvi+165 pp., $119. This work presents the first edited Arabic version of Euclid's *Optics*. In recasting the rather rigid Greek technical vocabulary into looser Arabic vocabulary the translator creates new possibilities for the development of certain key principles of optics. See the review by J. L. Berggren in *Mathematical Reviews* **2000c**:01005. (HEK) #27.3.88

Kleiman, S. L. *See* #27.3.41.

Klotzler, Rolf. *See* #27.3.123.

Knobloch, Eberhard. *See* #27.3.69 and #27.3.146.

Koch, H. *See* #27.3.7.

Kogalovskii, S. R. *See* #27.3.167.

Koriako, Darius. Unerweisliche Sätze, Erdichtete Begriffe: Kant über den Gebrauch Mathematischer Argumente in Philosophie [Unprovable Theorems, Made-Up Concepts: Kant on the Use of Mathematical Arguments in Philosophy], *Studia Leibnitiana* **30** (1) (1998), 24–48. Considers Kant's attempts at finding a secure path to metaphysical truth via mathematical arguments. (GVB) #27.3.89

Koroński, Jan. The Centenary of Professor S. Zaremba's Circle of Student Mathematicians at Jagiellonian University [in Polish], *Zeszyty Naukowe Politechniki Śląskiej. Matematyka-Fizyka* **76** (1996), 93–121. Description from its minutes of a Polish mathematical society founded in the late 19th century. See the review by Krzysztof Ciesielski in *Mathematical Reviews* **99k**:01083. (CJ) #27.3.90

Kouremenos, Theokritos. Mathematical Rigor and the Origin of the Exhaustion Method, *Centaurus* **39** (1997), 230–252. Questions the view that the method of exhaustion originated as a rigorous means to handle infinite processes. (GVB) #27.3.91

Kramer, J. *See* #27.3.7.

Kreisel, G. Second Thoughts Around Some of Gödel's Writings: A Non-academic Option, *Synthese* **114** (1) (1998), 99–160. Somewhat rambling series of observations on 20th century foundations of mathematics and logic by someone involved in the evolution of their relation. See the review by E. Mendelson in *Mathematical Reviews* **99k**:01037. (CJ) #27.3.92

Kurtik, G. E. The Concept of Velocity in Ancient Science: Aristotle and Ptolemy [in Russian], in *Studies in the History of Physics and Mechanics*, Moscow: "Nauka," 1997, pp. 219–248. The differences between Aristotle's and Ptolemy's ideas about velocity, uniform motion, and similar notions are ascribed to the fact that the first was a philosopher and the second was an astronomer. See the review by Lloyd G. Chambers in *Mathematical Reviews* **2000a**:01004. (JA) #27.3.93

Kutateladze, S. S. *See* #27.3.2.

Kvasz, Ladislav. History of Geometry and the Development of the Form of Its Language, *Synthese* **116** (1998), 141–186. "The main objective of this paper is philosophy rather than history. Its aim is to introduce into geometry the notion of the form of a language from Wittgenstein's *Tractatus*." See the review by Detlef Laugwitz in *Mathematical Reviews* **2000a**:00005. (JA) #27.3.94

Laugwitz, Detlef. *See* #27.3.94.

Law, Peter R. *See* #27.3.61.

Lax, Peter D. *See* #27.3.20.

Lejbowicz, Max. Logique, Mathématiques et Contre-Acculturation dans l'Université Médiévale, in Stefano Caroti and Pierre Souffrin, eds., *La Nouvelle Physique du XIV*^{e} *Siècle*, Florence: Leo S. Olschki Editore, 1997, pp. 203–229. This article contrasts the two styles of 12th-century theological writing, the discursive quaestiones of Petrus Lombardus and attempts to apply the axiomatic method of Gilbert Poitiers. See the review by Jens Høyrup in *Mathematical Reviews* **2000c**:01015. (HEK) #27.3.95

Leray, Jean. *Selected Papers. Œuvres Scientifiques. Vol. I. Topology and Fixed Point Theorems/Topologie et Théorème du Point Fixe*, Paul Malliavin, ed., Berlin: Springer-Verlag/Paris: Société Mathématique de France, 1998, x+507 pp. This volume of Leray's papers concentrates on his work in algebraic topology, primarily from the 1940s. See the extensive review by Nicolai N. Tarkhanov in *Mathematical Reviews* **2000c**:01041. (GVB) #27.3.96

Leray, Jean. *Selected Papers. Œuvres Scientifiques. Vol. II. Fluid Dynamics and Real Partial Differential Equations/Équations aux Dérivées Partielles Réeles et Mécaniques des Fluides*, Paul Malliavin, ed., Berlin: Springer-Verlag/Paris: Société Mathématique de France, 1998, viii+583 pp. This volume of Leray's papers concentrates on his work in partial differential equations, especially those arising in mathematical physics, including his 1933 dissertation. See the extensive review by Nicolai N. Tarkhanov in *Mathematical Reviews* **2000c**:01042. (GVB) #27.3.97

Leray, Jean. *Selected Papers. Œuvres Scientifiques. Vol. III. Several Complex Variables and Holomorphic Differential Equations/Fonctions des Plusieurs Variables Complexes et Équations aux Dérivées Partielles Holomorphes*, Paul Malliavin, ed., Berlin: Springer-Verlag/Paris: Société Mathématique de France, 1998, viii+599 pp. This volume of Leray's papers deals with his work in complex analysis; three major theories developed are sheaf cohomology and spectral sequences, residue theory and Cauchy-Fantappiè formulas, and the holomorphic Cauchy problem. See the extensive review by Nicolai N. Tarkhanov in *Mathematical Reviews* **2000c**:01043. (GVB) #27.3.98

Lewis, Albert C. *See* #27.3.7, #27.3.129, #27.3.145, and #27.3.158.

Li, Di. Pen and Paper Calculations by Qing Dynasty Mathematicians [in Chinese], *Journal of Northwest University* **28** (6) (1998), 461–466. The author concludes that mathematicians in the Qing Dynasty calculated mainly by means of written calculation with pen and paper. (GVB) #27.3.99

Losev, Alekseĭ Fedorovich. *Chaos and Structure* [in Russian], Moscow: 'Mysl,' 1997, 832 pp. Contains the unpublished works of A. F. Losev (1893–1988), mostly in the philosophy of mathematics. See the review by E. Mendelson in *Mathematical Reviews* **2000b**:01031. (EAM) #27.3.100

Losonczi, László. Paul Erdős on Functional Equations: Contributions and Impact, *Aequationes Matematicae* **54** (3) (1997), 221–233. Gives a brief biographical sketch of Erdős, then outlines his contributions to the study of functional equations and his influence on subsequent developments related to them in three categories: extensions and quasi-extensions of functional equations, functions which are almost everywhere additive, and questions related to additive arithmetic functions. It concludes with a 51-page bibliography. See the review by F. J. Papp in *Mathematical Reviews* **2000b**:39009. (EAM) #27.3.101

Machamer, Peter, ed. *The Cambridge Companion to Galileo*, Cambridge, UK: Cambridge Univ. Press, 1998, xii+462 pp., $19.95. Mainly philosophical, but contains several essays that treat the role and nature of mathematics

in Galileo's scientific thought. See the review by Massimo Galuzzi in *Mathematical Reviews* **99k**:01020. (CJ) #27.3.102

Madrecki, Andrzej. *See* #27.3.84.

Malliavin, Paul. *See* #27.3.96, #27.3.97, and #27.3.98.

Malmuth, Norman. *See* #27.3.15.

Manfredi, Piero; and Micheli, Giuseppe A. Mathematical Ecology and Population Mathematics [in Italian], in Simonetta di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics after Unity* [in Italian], Milan: Marcos y Marcos, 1998, pp. 671–733. This paper surveys the history of mathematical modeling in population dynamics and ecology during the first half of the 20th century. The authors discuss the role early researchers had in mathematical population biology. See the review by J. M. Cushing in *Mathematical Reviews* **2000c**:01033. (HEK) #27.3.103

Marle, Charles-Michel. *See* #27.3.10.

Mehra, Jagdish. One Month in the History of the Discovery of General Relativity Theory, *Foundations of Physics Letters* **11** (1998), 41–60. The month in question appears to be November 1915. Apportioning the credit between Einstein and Hilbert for formulating the field equations is at least partially dependent upon Einstein's undated notes on "statische Probleme," an English translation of which is provided here. See the review by H. Treder in *Mathematical Reviews* **2000a**:01024, and see also #27.3.81. (JA) #27.3.104

Mendell, Rosalind. The Archimedes Palimpsest, *BSHM Newsletter* **39** (1999), 21–26. First-person account of the auction of the Archimedes palimpsest on 29 August 1998 at Christie's Park Avenue in New York City. (DEZ) #27.3.105

Mendelson, E. *See* #27.3.92 and #27.3.100.

Mercier, Raymond. *See* #27.3.86.

Michel, Louis. Physique et Mathématique, in *Les Relations entre les Mathématiques et la Physique Théorique*, Bures-sur-Yvette: Institut des Hautes Études Scientifiques, 1998, 131–144. Develops the topic of the title, through historical arguments, summarizing the interaction of certain sciences that led to the creation of the Institute des Hautes Études Scientifiques. See the review by Jules Beckers in *Mathematical Reviews* **2000b**:01018. (EAM) #27.3.106

Micheli, Giuseppe A. *See* #27.3.103.

Mineev, Vladimir P. *See* #27.3.87.

Minzoni, Antonmaria. The Work of Weierstrass and the Propagation of Waves [in Spanish], *Miscelánea Matemática* **25** (1997), 75–90. An explanation of how Weierstrass's theory of elliptic functions was applied to the analysis of waves in shallow fluid bodies by D. J. Korteweg and J. de Vries. See the review by Ivor Grattan-Guinness in *Mathematical Reviews* **2000a**:30001. (JA) #27.3.107

Molland, George. *See* #27.3.31 and #27.3.50.

Moore, Edward C. *See* #27.3.118.

Mukerjee, Himadri Kumar. *See* #27.3.76.

Mura, Alberto. Hume's Inductive Logic, *Synthese* **115** (3) (1998), 303–331. Discusses sections of Hume's work *A Treatise of Human Nature* (1739). See the review by Zeno G. Swijtink in *Mathematical Reviews* **2000b**:03079. (EAM) #27.3.108

Murawski, Roman. Undefinability of Truth. The Problem of Priority: Tarski vs Gödel, *History and Philosophy of Logic* **19** (3) (1998), 153–160. Considers whether Tarski or Gödel should be granted priority for having demonstrated the undefinability of truth in formal languages, a problem whose solution has already been offered by others. See the review by John W. Dawson in *Mathematical Reviews* **99k**:01038. (CJ) #27.3.109

Murawski, Roman. *See also* #27.3.151.

Nádeník, Z. *See* #27.3.156.

Naidu, P. S. V. *See* #27.3.2.

Narahari Achar, B. N. On an Astronomical Concept in *Visṇupurāṇa*, *Indian Journal of History of Science* **34** (2) (1999), 109–115. The variable speed of the Sun along the ecliptic arises in the *Visṇupurāṇa* in the explanation of variations of lengths of daylight. (GVB) #27.3.110

Nauenberg, Michael. Newton's Unpublished Perturbation Method for the Lunar Motion, *International Journal of Engineering Science* **36** (12–14), 1391–1405. Analyzes an unpublished manuscript of Newton in which he developed a perturbation method for calculating the gravitational effect of the sun on the moon's motion, a welcome addition to the literature. See the review by Niccolo Guicciardini in *Mathematical Reviews* **99k**:01015. (CJ) #27.3.111

Nef, Frédéric; and Vernant, Denis, eds. *Le Formalisme en Question: Le Tournant des Années Trente*, Paris: Librairie Philosophique J. Vrin, 1998, 450 pp., 189 F. The proceedings of the Colloquium on the 1930s: The Reaffirmation of Formalism, held in Saint-Malo, 1994. Contains 19 papers on the history of logic, especially in the 1930s. (GVB) #27.3.112

Nishino, Toshio. The Mathematics of Professor Kiyoshi Oka—The Birth of Undetermined Domain Ideals [in Japanese] *Sugaku* **49** (2) (1997), 144–157. The notion of an ideal on undetermined domains is now called a sheaf or an ideal sheaf. This article describes Oka's philosophy on the research life of mathematics. See the review by Junjiro Noguchi in *Mathematical Reviews* **2000c**:01037. (HEK) #27.3.113

Noguchi, Junjiro. *See* #27.3.113.

Oberschelp, Walter. Alcuin's Camel and the Jeep Problem, in P. L. Butzer, H. Th. Jongen, and W. Oberschelp, eds., *Charlemagne and his Heritage*, vol. 2, Turnhout: Brepols, 1998, pp. 411–422. The Camel Problem was contained in a collection of problems due to Alcuin of York. "It requires maximizing the distance traveled when a given amount of fuel is available and in-between depots are provided." See the review by Richard Francis in *Mathematical Reviews* **2000a**:01007. (JA) #27.3.114

O'Malley, Robert. *See* #27.3.15.

Ortner, Norbert. *See* #27.3.70.

Otero, Mario H. Moritz Pasch: Acerca del Valor Formation de las Matemáticas (1894) [Moritz Pasch: On the Educational Value of Mathematics (1894)], *LLULL* **22** (1999), 515–532. A short sketch of Moritz Pasch's life and work, centered on his work on the axiomatic foundations of geometry, precedes a Spanish translation (by Luis Floria and Ignacio Aparicio) of Pasch's academic lecture (July 2, 1894) at Giessen Ludoviciana University. The educational value of mathematics was the theme of the lecture. (VA) #27.3.115

Pambuccian, Victor V. *See* #27.3.58, #27.3.124, and #27.3.162.

Papanikolaou, Alexander N. *Mathematics, Music, Architecture in Ancient Greece* [in Greek], Athens: Hellenic Ministry of Culture, 2000, 142 pp. The geometry of several ancient Greek temples is analyzed. (GVB) #27.3.116

Papp, F. J. *See* #27.3.101.

Pastrone, Franco. Mathematical Physics and Rational Mechanics [in Italian], in Simonetta Di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics After Unity*, Milan: Marcos y Marcos, 1998, 381–504. Treats the history of the evolution of mathematical physics in Italy. Contains 350 references, about 300 of which are in Italian. See the review by Lloyd G. Chambers in *Mathematical Reviews* **2000b**:01019. (EAM) #27.3.117

Peirce, Charles S. *The Essential Writings*, ed. Edward C. Moore, Amherst, NY: Prometheus Books, 1998, xviii+ 322 pp., $10.95. This reprint of a 1988 book emphasizes Peirce's philosophical writings. (GVB) #27.3.118

Pepe, Luigi. Gaspard Monge: A Mathematician in the History of the Great Libraries of Italy (1796–1798) [in Italian], *Bollettino di Storia delle Scienze Matematiche* **17** (2) (1997), 233–265. Monge was a member of the Commission for the Sciences and Arts which joined the French army during Napoleon's first campaign in

Italy in 1796. This paper provides information on this Commission's charge to withdraw rare manuscripts and art from the Italian archives. See the review by Umberto Bottazzini in *Mathematical Reviews* **2000c**:01022. (HEK) #27.3.119

Pepe, Luigi. *See also* #27.3.17, #27.3.21, and #27.3.22.

Petrova, S. S.; and Demidov, S. S. Development of Mathematical Analysis, in B. M. Gnedenko, ed., *Outlines of the History of Mathematics* [in Russian], Moscow: Izdatelstvo Moskovskogo Universiteta, 1997, pp. 7–93. This article presents a description of the early history of the calculus from the work of Archimedes and Eudoxus through the 17th century with Newton's fluxions and Leibniz's differential calculus. Included is a chapter on the early use of the calculus by the Bernoullis, Gregory, l'Hôpital, and Taylor. See the review by F. Smithies in *Mathematical Reviews* **2000c**:01002. (HEK) #27.3.120

Pierseaux, Yves. Le Concept "d'Événements Indépendants" dans les Trois Articles d'Einstein de 1905. *Fondation Louis de Broglie. Annales* **22** (4) (1997), 391–408. The author tries to find a link between Einstein's three great papers of 1905. He argues that "independent events" is the common element of all three. See the review by R. L. Ingraham in *Mathematical Reviews* **2000c**:81003. (HEK) #27.3.121

Pinel, Pierre. *See* #27.3.156.

Placek, Tomasz. *Mathematical Intuitionism and Intersubjectivity*, Dordrecht: Kluwer, 1999, xiii+218 pp. An examination of the philosophical foundations of intuitionism that discusses in detail the arguments of Brouwer, Heyting, and Dummett. (PW) #27.3.122

Plail, Michael. *Die Entwicklung der Optimalen Steurungen: Von den Anfängen bis zur Eigenständigen Disziplin in der Mathematik* [The Development of Optimal Controls: From the Beginnings to the Status of Independent Discipline in Mathematics], Göttingen: Vandenhoek & Ruprecht, 1998, x+311 pp., DM 98. The interaction between various demands and technical achievements, as well as accomplishments in both the East and West, led to the formation of optimal controls as an independent mathematical discipline. See the review by Rolf Klotzler in *Mathematical Reviews* **99k**:49001. (GVB) #27.3.123

Poizat, Bruno. *See* #27.3.142.

Posy, Carl J. Brouwer versus Hilbert: 1907–1928, *Science in Context* **11** (2) (1998), 291–325. The author shows how one could understand both Brouwer's and Hilbert's positions on the continuum. See the review by Victor V. Pambuccian in *Mathematical Reviews* **2000c**:01034. (HEK) #27.3.124

Quinn, Philip L. *See* #27.3.4.

Radelet-de Grave, P. La "Diatribe du Docteur Akakia, Médecin du Pape" [The "Diatribe of Doctor Akakia, Papal Physician"], *Revue des Questions Scientifiques* **169** (2–3) (1998), 209–249. Discusses the dispute over the correctness, status, and origin of the "principle of least action," including this diatribe by Voltaire attacking Maupertuis. See the review by Michael A. B. Deakin in *Mathematical Reviews* **2000b**:01009. (EAM) #27.3.125

Ransom, Peter. Friendly Sundials, *BSHM Newsletter* **39** (1999), 44–48. Descriptions of sundials in South Africa, New Zealand, and England. (DEZ) #27.3.126

Ransom, Peter. Landscape Sundials, *BSHM Newsletter* **40** (1999), 43–47. Descriptions of sundials, mostly in France, "so big they spread out into the surrounding landscape." (DEZ) #27.3.127

Rao, C. S. Śrīyantra—A Study of Spherical and Plane Forms, *Indian Journal of History of Science* **33** (3) (1998), 203–227. Applies methods of nonlinear programming to the study of ancient geometrical networks of spherical and plane triangles. See the review by A. I. Volodarskiĭ in *Mathematical Reviews* **99k**:01008. (CJ) #27.3.128

Regazzini, Eugenio. *See* #27.3.72.

Reid, Constance. Down the Rabbit Hole or Abenteuer im Wunderland, *Mitteilungen der Deutch Mathematik-Verein* 1999 (1), 26–34. For her famous book *Hilbert* (1970), Reid discusses some of the difficulties she encountered in its composition and also the reactions of certain key people to her manuscript. She also comments on some of its reviews. See the review by Albert C. Lewis in *Mathematical Reviews* **2000a**:01030. (JA) #27.3.129

Renn, Jürgen. *See* #27.3.61.

Reshetnyak, G. *See* #27.3.2.

Revuz, André. *See* #27.3.10.

Ritter, Jim. *See* #27.3.61.

Roche, John J. *The Mathematics of Measurement: A Critical History*, London: Athlone Press/New York: Springer-Verlag, 1998, xii+330 pp., $79.95. Historical study of measurement, focusing on the quantification of concepts related to physics and engineering from the ancient world to the modern period. See the review by Peter M. Harman in *Mathematical Reviews* **99k**:01002. (CJ) #27.3.130

Rodis-Lewis, Genevieve. Quelques Remarques sur la Question de la Vitesse de la Lumière chez Descartes, *Revue d'Histoire des Sciences* **51** (2–3) (1998), 347–354. Analyzes Descartes' statements on the speed of light. See the review by Peter M. Harman in *Mathematical Reviews* **99k**:01017. (CJ) #27.3.131

Rossignoli, Chiara. Statistics, in Simonetta Di Sieno, Angelo Guerraggio, and Pietro Nastasi, eds., *Italian Mathematics After Unity*, Milan: Marcos y Marcos, 1998, 623–648. Outlines the principal contributions of Italian statistics and discusses it from an international perspective. See the review by Pierre Crépel in *Mathematical Reviews* **2000b**:01021. (EAM) #27.3.132

Rouxel, Bernard. *See* #27.3.26.

Rowe, David E. Perspective on Hilbert, *Perspectives on Science* **5** (4) (1997), 533–570. Provides short analyses on three different investigations of Hilbert's work in foundations—those written by H. Mehrtens, V. Peckhaus, and M. Toepell—guiding the reader on how to read these studies. See the review by Pierre Crépel in *Mathematical Reviews* **2000b**:01022. (EAM) #27.3.133

Sabra, A. I. Th$\bar{a}$bit ibn Qurra on the Infinite and Other Puzzles: Edition and Translation of his Discussions with Ibn Usayyid, *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* **11** (1997), 1–33, 7 (Arabic paging). Consists of an Arabic text with English translation, along with an introduction; topics considered are primarily metaphysical, though mathematical notions such as infinity and number are also discussed. See the review by Mohamed Amer in *Mathematical Reviews* **99k**:01007. (CJ) #27.3.134

Sabra, A. I. One Ibn al-Haytham or Two? An Exercise in Reading the Bio-Bibliographical Sources, *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*. **12** (1998), 1–50. Roshdi Rashed had presented an interesting hypothesis that works attributed to Ibn al-Haytham are actually the result of the confusion of two different historical characters, one a mathematician and the other a physician. Sabra's paper represents a serious criticism of Rashed's work. See the review by Julio Samsó-Moya in *Mathematical Reviews* **2000c**:01008. (HEK) #27.3.135

Saliba, George. *See* #27.3.32.

Samsó-Moya, Julio. *See* #27.3.135 and #27.3.169.

Sánchez, Clara H. *See* #27.3.1.

Sarma, Sreeramula Rajeswara. *Yantrar$\bar{a}$ja*: The Astrolabe in Sanskrit, *Indian Journal of History of Science* **34** (2) (1999), 145–158. The arrival of the astrolabe in medieval Islam provoked two responses: several Sanskrit manuals on the construction and use of the astrolabe, and the production of astrolabes in the Sanskrit language and Devan$\bar{a}$gar$\bar{\text{i}}$ script. (GVB) #27.3.136

Sato, Ken'ichi. On the Theory of Regular Polygons in Traditional Japanese Mathematics: Reconstruction of the Process for the Calculation of the Degree of *Kaih$\bar{o}$shiki* Appearing in the *Taisei Sankei* by Seki and Takebe Brothers, *Historia Scientarium* (2) **8** (1), 71–85. Deals with the theory of regular polygons in traditional Japanese mathematics; treats topic from a "presentist" viewpoint. See the review by Andrea Bréard in *Mathematical Reviews* **99k**:01006. (CJ) #27.3.137

Sauer, Tilman. The Relativity of Discovery: Hilbert's First Note on the Foundations of Physics, *Archive for History of Exact Sciences* **53** (1999), 529–575. Treats the problematic history of Einsteinian gravitation equations in Hilbert's work on the foundation of physics. See the review by H. Treder in *Mathematical Reviews* **99k**:01039. (CJ) #27.3.138

Sauer, Tilman. *See also* #27.3.61.

Schappacher, N. *See* #27.3.7.

Scharlau, Winfried. Emmy Noether's Contributions to the Theory of Algebras, in Mina Teicher, ed., *The Heritage of Emmy Noether*, Ramat-Gan: Bar-Ilan University, 1999, 39–55. Reviews Noether's place in the 20th-century development of algebra, focusing primarily on the theory of finite-dimensional semisimple associative algebras. See the review by Kenneth A. Brown in *Mathematical Reviews* **2000b**:01023. (EAM) #27.3.139

Schulmann, Robert. *See* #27.3.81.

Schwartz, Jacob T. *See* #27.3.12.

Schwendeman, Donald W. *See* #27.3.15.

Scriba, Christoph J. *See* #27.3.53 and #27.3.166.

Sernesi, Edoardo. De Franchis' Contributions to the Theory of Algebraic Curves, in Umberto Bottazzini, ed., *Studies in the History of Modern Mathematics, III*, Palermo: Circolo Matematico di Palermo, 1998, pp. 39–44. One of the main results discussed is the famous de Franchis theorem, which asserts that an algebraic curve admits only finitely many rational nonconstant maps to curves of genus 2. See the review by I. Dolachev in *Mathematical Reviews* **2000c**:14003. (HEK) #27.3.140

Sesiano, Jacques. An Early Form of Greek Algebra, *Centaurus* **40** (1998), 276–302. Investigates the use of algebraic identities before Diophantus. See the review by C. R. Fletcher in *Mathematical Reviews* **99k**:01004. (CJ) #27.3.141

Sesiano, Jacques. Le Traité d'Abū 'l-Wafā' sur les Carrés Magiques,*Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* **12** (1998), 121–244. This is a translation, with an introduction and critical notes, of a 33-page manuscript on magic squares by the 10th-century Persian mathematician Abū 'l-Wafā' al-Buzjānī. See the review by Bruno Poizat in *Mathematical Reviews* **2000a**:01006. (JA) #27.3.142

Shafranovskiĭ, I. I.; and Dubov, P. L. *Auguste Bravais. 1811–1863* [in Russian], St. Petersburg: "Nauka" St.-Petersburg. Otdel., 1997, 144 pp. This biography of Bravais describes his work in mathematics, botany, crystals, and astronomy. See the review by R. L. Cooke in *Mathematical Reviews* **2000c**:01038. (GVB) #27.3.143

Shimakura, Norio. Fundamental Solutions to Partial Differential Equations [in Japanese] *Sugaku* **50** (4) (1998), 403–420.This paper is a survey of the history of fundamental solutions of partial differential equations. See the review by Hidetoshi Tahara in *Mathematical Reviews* **2000c**:35005. (HEK) #27.3.144

Shore, Robert. *See* #27.3.37.

Siegmund-Schulze, Reinhard. Das an der Berliner Universität um 1892 "Herrschende Mathematische System" aus der Sicht des Göttingers Felix Klein: Eine Studie über den "Raum der Wissenschaft" [The "Prevailing Mathematical System" at Berlin University around 1892, from the Viewpoint of Felix Klein in Göttingen: A Study on the "Space of Science"], *Acta Historica Leopoldina* **27** (1997), 239–255. Treats Klein's choice of Göttingen over Berlin for locating a modern mathematical community in late 19th-century Germany. See the review by Albert C. Lewis in *Mathematical Reviews* **99k**:01028. (CJ) #27.3.145

Sinaceur, Hourya. *See* #27.3.75 and #27.3.161.

Singmaster, David. The History of Some of Alcuin's Propositions, in P. L. Butzer, H. Th. Jongen, and W. Oberschelp, eds., *Charlemagne and his Heritage*, Turnhout: Brepols, 1998, vol. 2, pp. 11–29. The author attempts to justify the thesis that this work is a landmark in the history of mathematics in general, as well as in the history of recreational mathematics. Singmaster outlines the content of many of the problems. See the review by Eberhard Knobloch in *Mathematical Reviews* **2000c**:01016. (HEK) #27.3.146

Singmaster, David. Mathematical Gazetteer of Britain #12: London, Part 1. Institutions and Central London, *BSHM Newsletter* **39** (1999), 39–43. Short descriptions of mathematically related items found in Westminster Abbey, Houses of Parliament, and other locations in London. (DEZ) #27.3.147

Singmaster, David. Mathematical Gazetteer of Britain #13: London, Part 2. Institutions Ctd, *BSHM Newsletter* **40** (1999), 36–39. Short descriptions of mathematical items found in the British Museum. (DEZ) #27.3.148

Sklar, Lawrence. *See* #27.3.48.

Slater, B. H. Peirce's Graphs Amended, *History and Philosophy of Logic* **19** (1998), 101–106. "The author extends C. S. Peirce's system of existential graphs to include rules for statements with individual terms, and demonstrates that the resulting system is deductively complete for first-order logic with identity." See the review by Merrie Bergmann in *Mathematical Reviews* **2000a**:03015. (JA) #27.3.149

Slowik, Edward. Descartes, Spacetime, and Relational Motion, *Philosophy of Science* **66** (1) (1999), 117–139. The author employs a "modern 'spacetime' approach" to Descartes' problematic relational theory of motion, concluding that the role of dynamics (as opposed to kinematic factors) is central. (GVB) #27.3.150

Smithies, F. *See* #27.3.45 and #27.3.120.

Stanley, Richard P. *See* #27.3.12.

Ştefănescu, Doru. *See* #27.3.27.

Stepinska, Ewa. The Debate Between Hilbert and Frege [in Polish], *Roczniki Polskiego Towarzystwa Matematycznego* **34** (1998), 105–122. The thesis of this paper is that the correspondence between David Hilbert and Gottlob Frege played a significant role in the development of Hilbert's ideas about the foundations of mathematics. See the review by Roman Murawski in *Mathematical Reviews* **2000a**:01019. (JA) #27.3.151

Studies on the History of Mathematics [in Japanese], Kyoto: Kyoto University, 1998, 171 pp. The proceedings of a 1998 symposium at Kyoto University, containing 14 papers on a wide variety of topics. (GVB) #27.3.152

Stürzbecher, Manfred. Dr. med. Albert Fleck und die Suche nach Seiner Fermat-Klinik [Dr. Med. Albert Fleck and the Search for his Fermat Clinic], *Acta Historica Leopoldina* **27** (1997), 339–346. Deals with Fleck's life and work as a physician; Fleck's Fermat clinic refers to his mathematical work in ferreting out mistakes in proofs purporting to prove Fermat's Last Theorem. See the review by E. Gerlach in *Mathematical Reviews* **99k**:01076. (CJ) #27.3.153

Swerdlow, Noel M. Regiomontanus's Concentric-Sphere Models for the Sun and Moon, *Journal for the History of Astronomy* **30** (1999), 1–23. This paper begins with some biographical information about Johann Müller (Regiomontanus), especially his skill as a "lightning calculator." Next, there is the text, in Latin and in English, of Regiomontanus' letter (1460) describing the concentric-sphere models. Finally, there is some analysis of these models. See the review by R. C. Gupta in *Mathematical Reviews* **2000a**:01011. (JA) #27.3.154

Swijtink, Zeno G. *See* #27.3.108.

Tagliaferri, Guido; and Tucci, Pasquale. Carlini and Plana on the Theory of the Moon and their Dispute with Laplace, *Annals of Science* **56** (3) (1999), 221–269. In 1820, Carlini and Plana (along with Damoiseau) won a prize established by the Académie des Sciences for constructing lunar tables based solely on the law of universal gravity. This paper chronicles the ensuing debate between Carlini-Plana and Laplace regarding the validity of their solution. (GVB) #27.3.155

Taha, Abdel-Kaddous; and Pinel, Pierre. Sur les Sources de la Version de Francesco Maurolico des *Sphériques* de Ménélaos, *Bollettino di Storia delle Scienze Matematiche* **17** (1997), 149–198. There is a survey of "translations and versions" of Menelaus' *Spherics* up to 1758. The discussion of Maurolico's 16th-century Latin version shows that it was based on the 12th-century Latin translation of Gerard of Cremona and an Arabic version (ca. 1300) by Jamal ad-Din Muhamad. See the review by Z. Nádeník in *Mathematical Reviews* **2000a**:01008. (JA) #27.3.156

Tahara, Hidetoshi. *See* #27.3.144.

Tarkhanov, Nicolai N. *See* #27.3.96, #27.3.97, and #27.3.98.

Tattersall, James J. *See* #27.3.62.

Taylor, Brian D. *See* #27.3.12.

Thiele, E.-J. *See* #27.3.7.

Tietz, Horst. Begegnung mit Hamburger Mathematikern [Encounter with Hamburg Mathematicians], *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **17** (1998), 5–13. Describes personal acquaintances with mathematicians from Hamburg in Nazi Germany, 1940–1942. See the review by Michael von Renteln in *Mathematical Reviews* **2000b**:01030. (EAM) #27.3.157

Tikhomirov, V. M. *See* #27.3.45.

Toepell, Michael. 100 Jahre *Grundlagen der Geometrie*—David Hilbert's Entscheidender Beitrag zur Formalisierung der Mathematik [100 Years of *Grundlagen der Geometrie*—David Hilbert's Crucial Contribution to the Formalization of Mathematics], Mitteilungen der Deutschen Mathematiker-Vereinigung (1999) (1), 10–15. Describes Hilbert's preliminary thoughts which led to his 1899 *Grundlagen*, revealing the role of intuition and projective geometry in the development of the work. The author concludes that Hilbert's goal from the beginning appears to have been the algebraization of geometry. See the review by Albert C. Lewis in *Mathematical Reviews* **2000b**:01015. (EAM) #27.3.158

Tougas, Joe. Hertz and Wittgenstein. Zum Historischen Hintergrund des *Tractatus*, *Conceptus* **29** (75) (1996), 205–227. This paper offers a convincing proof of the influence of Hertz's *Prinzipien der Mechanik* on Wittgenstein's *Tractatus logico-philosophicus*. See the review by Friedhelm Meyer auf der Heide in *Mathematical Reviews* **2000c**:01035. (HEK) #27.3.159

Treder, H. *See* #27.3.9, #27.3.81, #27.3.104, and #27.3.138.

Troestra, A. S. From Constructivism to Computer Science, *Theoretical Computer Science* **211** (1–2) (1999), 233–252. The author gives an historical account of how various ideas from constructivism came about and came to be important in computer science. See the review by Rodney G. Downey in *Mathematical Reviews* **2000c**:03003. (HEK) #27.3.160

Tucci, Pasquale. *See* #27.3.155.

Tulin, Marshall. *See* #27.3.15.

Tymoczko, Thomas. Gödel and the Concept of Meaning in Mathematics, *Synthese* **114** (1) (1998), 25–40. This paper is speculative rather than factual and is of interest to general philosophers rather than those who are looking for a discussion based on Gödel's assumptions and writings. See the review by Hourya Sinaceur in *Mathematical Reviews* **2000c**:01031. (HEK) #27.3.161

Van Dalen, Dirk. L. E. J. Brouwer's Intuitionism: A Revolution in Two Installments, in *Thirteenth Annual IEEE Symposium on Logic in Computer Science*, Los Alamitos, CA: IEEE Computer Society, 1998, 228–241. Sketches the basic ideas and development of intuitionism as they appear in Brouwer's publications. See the review by Victor V. Pambuccian in *Mathematical Reviews* **2000b**:03003. (EAM) #27.3.162

Van der Waerden, Bartel Leendert. Wie der Vermutung von Baudet Gefunden Wurde [How the Proof of Baudet's Conjecture was Found], *Elemente der Mathematik* **53** (4) (1998), 139–148. This paper gives an account of how he proved the theorem in the title. See the review by A. J. Hildebrand in *Mathematical Reviews* **2000c**:11001 (HEK) #27.3.163

Van Lambalgen, Michiel. Randomness and Foundations of Probability: Von Mises' Axiomatisation of Random Sequences, in T. S. Ferguson, L. S. Shapley, and J. B. MacQueen, eds., *Statistics, Probability and Game Theory*, Hayward, CA: Institute of Mathematical Statistics, 1996, pp. 347–367. Discusses von Mises' notion of a random sequence, the acceptance of Kolmogorov's rival axiomatization, and the connection between randomness and the axiom of choice. (GVB) #27.3.164

Van Maanen, Jan. A Dutch Academic Celebration, *BSHM Newsletter* **39** (1999), 32–33. A first-hand account of festivities surrounding the awarding of a Ph.D. to Marjolein Kool in February 1999. A summary of her dissertation [in Dutch] on new methods of counting using Hindu–Arabic numerals in 15th- and 16th-century Holland is given on pp. 53–54 of the *Newsletter*. (DEZ) #27.3.165

Van Wymeersch, Br. Les Rapports entre la Musique et la Science dans la Seconde Moitié du XVIe Siècle, *Revues des Questions Scientifiques*. **169** (2–3) (1998), 179–207. Traces the evolution of thought from classifying music

as a science, i.e., as part of mathematics, to music as an art. The author documents a debate between scientists and artists centered around the definition of the intervals in the music scale, which contributed to this progression. See the review by Christoph J. Scriba in *Mathematical Reviews* **2000b**:01006. (EAM) #27.3.166

Vaught, Robert. On the Work of Andrzej Ehrenfeucht in Model Theory, in Jan Mycielski, Grzegorz Rozenberg, and Arto Salomaa, eds., *Structures in Logic and Computer Science*, Berlin: Springer-Verlag, 1997, pp. 1–13. "This paper is dedicated to the outstanding contributions of Andrzej Ehrenfeucht in model theory." See the review by S. R. Kogalovskii in *Mathematical Reviews* **2000a**:03002. (JA) #27.3.167

Vernant, Denis. *See* #27.3.112.

Videla, Carlos R. A Brief History of a Marvelous Theorem. *Miscelánea Matemática* **23** (1996), 55–76. Traces the history of Tarski's problem on the exponential function and discusses the solution given by A. Wilkie in 1992. See the review by Danielle Gondard-Cozette in *Mathematical Reviews* **2000b**:03138. (EAM) #27.3.168

Vilain, Christiane. Mouvement Droit, Mouvement Courbe. I. L'Histoire d'un Interdit (13ème–14ème Siècles), *Archives Internationales d'Histoire des Sciences* **47** (1997), 271–294. In the 13th and 14th centuries, mathematicians and natural philosophers finally broke through the Aristotelian prohibition against comparing rectilinear and circular motions. The Latin translations of Archimedes' *Measurement of a Circle* and other works "intensified" this progress. See the review by Julio Samsó-Moya in *Mathematical Reviews* **2000a**:01009. (JA) #27.3.169

Volodarskiĭ, A. I. *See* #27.3.128.

Von Mettenheim, Christoph. *Popper versus Einstein*, Tübingen: J. C. B. Mohr (Paul Siebeck), 1998, iv+238 pp., DM 98. This book is an attack on the special theory of relativity. The author argues that the theory is empirically empty. Further, he contends that the light postulate is dogmatic, in conflict with Popper's conclusions. See the review by Dennis Dieks in *Mathematical Reviews* **2000c**:00019. (HEK) #27.3.170

Von Renteln, Michael. *See* #27.3.157.

Waterman, Michael. *See* #27.3.12.

Watkins, Eric. Kant's Justification of the Laws of Mechanics, *Studies in History and Philosophy of Science* **29** (4) (1998), 539–560. Discusses Kant's views on the status of Newton's laws of mechanics. See the review by Ivor Grattan-Guinness in *Mathematical Reviews* **99k**:01022. (CJ) #27.3.171

Williams, Hugh C. *Édouard Lucas and Primality Testing*, New York: Wiley, 1998, x+525 pp., $74.95. Traces the influence of the ideas of Lucas on modern primality testing methods, including extensions and generalizations of his work by Proth, Pocklington, and Lenstra, among others. See the review by Wieb Bosma in *Mathematical Reviews* **2000b**:11139. (EAM) #27.3.172

Wilson, Robin. E. C. Titchmarsh (b. 1899), *European Mathematical Society Newsletter* **33** (1999), 16–17. E. C. Titchmarsh (1899–1963) was Hardy's successor in Oxford's Savilian chair of geometry and continued the research school in analysis which Hardy had instigated. (JGF) #27.3.173

Yamaguti, Kiyosi. A Joint Translation Committee for Mathematical Terms Related to Engineering Formed by the Tokyo Mathematical Society and Association of Engineering in the Former Meiji Period [in Japanese], *Bulletin of the Faculty of Engineering, Kyushu Sangyo University* **35** (1998), 303–310. The process of unification of the translation of 112 mathematical terms related to engineering from English to Japanese in 1883 and 1884 is studied. (GVB) #27.3.174

Yourgrau, Palle. *Gödel Meets Einstein: Time Travel in the Gödel Universe*, Chicago: Open Court, 1999, xxiv+253 pp. A philosophical examination of Gödel's models of general relativity with closed causal curves and their significance for the meaning of time. (PW) #27.3.175

Yudovich, V. *See* #27.3.55.

Zagha, Muriel. *See* #27.3.37.